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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FERKO, KATHRYN P

ART UNIT PAPER NUMBER

3743

DATE MAILED: 01/31/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,786

Applicant(s)

SCHJERVEN ET AL.

Examiner

Kathryn Ferko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 1, reference is made to the continuation-in-part of Serial No. 09/760,194 as being filed on January 12, 2000. The filing date is incorrect and should be January 12, 2001. Additionally, it is unclear as to what element 87 is referencing. In the specification on page 11, element 82 is referred to as the control compartment; therefore, it is unclear what element 87 is.

Appropriate correction is required.

Drawings

2. The drawings are objected to because figure 2 is too dark, figure 8 is too small to see clearly, and figure 9 is unprofessional. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. Claim 1 recites the limitation "the modulating valve" in line 12. There is insufficient antecedent basis for this limitation in the claim. No prior mention is made to a modulating valve; therefore, the word "the" cannot be used to reference modulating valve.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al in view of Six et al.

Shaw et al. clearly disclose a conveyor oven control, as described in column 8, lines 22-28 and seen in figure 15, consisting of an energy management system for controlling a flow stream of hot air through an oven for baking a food product, as stated in column 7, lines 20-44 and column 8, lines 1-22; a conveyor, element 11, extending through a cavity for conveying a food product through an oven; a gas line for conveying gas from a source to a burner, elements 17 and 18, in an oven, element 1; an energy management system, element 20, being interposed in the gas line and between the source and the burner for modulating the flow of gas to the burner, as recited in column 7, lines 20-44; an energy management system consisting of a controller/control system, a signal conditioner/processing means, element 29, and an ignition module (which is inherent in order to start the burner); a safety shut down valve, element 20, associated with the ignition module to prevent the ignition module from re-igniting the burner in hazardous conditions, as discussed in column 7, lines 18-34, column 12, lines 66-67, and column 13, lines 1-25; a pair of sensors, elements 31 and 32, in the oven for sensing instantaneous oven temperatures; a controller that is responsive to the sensed temperatures

for controlling the energy management system to regulate operation of the modulating valve and the flow of gas to the burner in order to maintain an oven temperature within a predetermined range where the signal conditioner, element 29, is responsive to the controller for providing signal that control the modulating valve as discussed in column 7, lines 45-61 and column 9, lines 16-30; and a burner that heats air in a plenum, element 23, at an input end of an oven from which hot air is driven through a cavity, as stated in column 7, lines 62-67 and column 8, lines 1-21. Shaw et al. discuss many different options for the placement and construction of the sensors; therefore, additional sensors may be at different places as well as in the plenum, as recited in column 9, lines 31-54 and column 11, lines 15-32. However, Shaw et al. do not explicitly disclose a signal conditioner and an ignition module that are electrically isolated from each other to prevent feedback between them which might otherwise defeat the safety shut down valve. Six et al. teach of the use of electrical isolation, element 6, to prevent feedback, as described in column 1, lines 10-15, column 3, lines 35-40, column 4, lines 19-30 and 40-50, and column 5, lines 10-15. Therefore, it would be obvious to one with ordinary skill in the art to modify the system of Shaw et al. to use electrical isolation to prevent feedback for the purpose of increased safety by assuring proper function of a safety shut down valve, element 20.

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6. Claims 2-3, 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. in view of Six et al. as applied to claims 1 and 4, and further in view of White et al.

Shaw et al. in view of Six et al. disclose the conveyor system for automatically baking a food product over a timed period as applied to claims 1 and 4. However, an energy management system that includes a modulating valve consisting of a diaphragm closing a chamber having an internal pressure controlled by fluctuations of oven temperature; a main valve in a modulating valve coupled to move with the diaphragm for regulating the amount of gas flowing from the gas source through the gas line to the burner in response to movement of the diaphragm; a tap line for applying pressure in the chamber acting on the diaphragm in response to sensors whereby the flow of gas through the main gas valve in the modulating valve to the burner is regulated as a function of instantaneous oven temperature; or a by-pass line for enabling a limited amount of gas to flow around the main valve of the modulating valve whereby the burner continues to burn and does not shut down while the main valve is closed have not been recited. On the other hand, White et al. teach an energy management system the includes a modulating valve, element 54, consisting of a diaphragm, element 122, closing a chamber having an internal pressure controlled by fluctuations of oven temperature, as described in column 6, lines 33-37; a main valve, element 52, in a

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modulating valve, element 54, coupled to move with the diaphragm, element 122, for regulating the amount of gas flowing from the gas source through the gas line to the burner in response to movement of the diaphragm, as recited in column 3, lines 39-42; a tap line for applying pressure in the chamber acting on the diaphragm in response to sensors whereby the flow of gas through the main gas valve in the modulating valve to the burner is regulated as a function of instantaneous oven temperature, as discussed in column 5, lines 41-58; and a by-pass line, element 82, for enabling a limited amount of gas to flow around the main valve of the modulating valve whereby the burner continues to burn and does not shut down while the main valve is closed, as stated in column 3, lines 25-29 and column 4, lines 1-17. Therefore, it would be obvious to one with ordinary skill in the art at the time the invention was made to modify the conveyor oven of Shaw et al. including the electric isolation of Six et al. to include the modulating assembly and by-pass as taught by White et al. for the purpose of increased temperature control, continuous burner operation, reduced noise through the elimination of continually turning the blower off and on, and increased efficiency. Furthermore, although also not explicitly stated, it would be obvious for proper isolation to specify the electrical control circuit to operate the valve, controller, conditioner, and ignition module where the first section related to the

mechanical aspects of the oven and the second relates to the energy management of heat delivery.

7. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. in view of Six et al. and White et al. as applied to claim 12 above, and further in view of Witt et al.

Shaw et al. in view of Six et al. and White et al. demonstrate the conveyor oven assembly as applied to claim 12. However, a conveyor speed controller; safety interlocking contacts for mechanical parts; a second section that has first and second transformers coupled in parallel to provide isolation between their secondary windings where one of the secondary windings supplies power to the controller and the other supplies power to the ignition module have not been explicitly mentioned. On the other hand, Witt et al. teach of a conveyor speed control circuit for a conveyor oven as stated by the title. Therefore, it would be obvious to one with ordinary skill in the art at the time the invention was made to modify the system of Shaw et al. in view of Six et al. and White et al. to include a conveyor speed control circuit with safety interlocking contacts for mechanical parts and an arrangement of a second section that has first and second transformers coupled in parallel to provide isolation between their secondary windings where one of the secondary windings supplies power to the controller and the other supplies power to the ignition module

for the purpose of proper overall control and coordination of the system in order to increase efficiency and safety.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Other pertinent references are as follows: US Patent No. 5,492,055, US Patent No. 5,253,564, US Patent No. 4,884,552, and US Patent No. 5,547,373 for convey ovens with controls; US Patent No. 6,217,312, US Patent No. 5,249,739, US Patent No. 5,045,658, US Patent No. 4,403,942, US Patent No. 6,216,683, US Patent No. 6,123,063, US Patent No. 6,037,580, US Patent No. 4,201,924, US Patent No. 6,018,466, and US Patent No. 5,289,500, US Patent No. 4,189,680, US Patent No. 4,281,358, US Patent No. 3,941,553, US Patent No. 4,359,315, US Patent No. 4,615,282, US Patent No. 4,662,838, US Patent No. 4,245,978, US Patent No. 4,131,412, US Patent No. 3,589,848, US Patent No. 3,861,854, US Patent No. 4,242,079, US Patent No. 5,819,721, US Patent No. 5,379,752 for controls.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathryn Ferko whose telephone number is (703) 306-3454. The examiner can normally be reached on M-F (7:30-5:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry A Bennett can be reached on (703) 308-0101. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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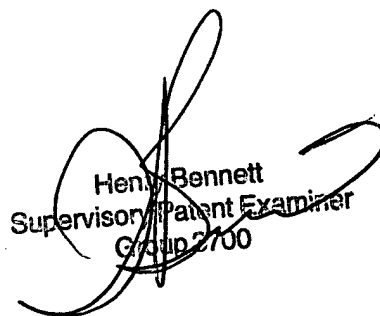
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872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

KF
January 28, 2002


Henry Bennett
Supervisor Patent Examiner
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